



OHM Corporation

September 8, 1995

Resident Officer in Charge of Construction
NETC
Building 1, Simonpietri Drive
Newport, RI 02841-1712
Attn: David Dorocz

Re: Contract No. N62470-93-D-3032 DO #25
Melville North Landfill:

Dear Mr. Dorocz:

Attached, please find the Final Operations Work Plan for the subject project for your use and approval.

Following, under separate cover will be the Final Sampling and Analysis Plan.

If you should have any questions or require further information please feel free to advise.

Very truly yours,

William L. Snow, P.E.
Project Manager

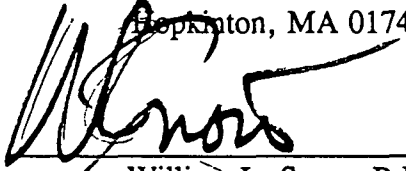
**OPERATIONS WORK PLAN
FOR THE REMOVAL ACTION
AT
MELVILLE NORTH LANDFILL
NAVAL EDUCATION AND TRAINING CENTER
NEWPORT, RHODE ISLAND**

Prepared for:

DEPARTMENT OF THE NAVY
Contract No. N62470-93-D-3032
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway
Mail Stop No. 82
Lester, Pennsylvania 19113-2090

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September 8, 1995
Delivery Order 0025
OHM Project 16143



**OHM Remediation
Services Corp.**
A Subsidiary of OHM Corporation

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1.0 INTRODUCTION

1.1 PROJECT BACKGROUND

Excavation and off-site treatment/disposal will be conducted to remove petroleum impacted soil at two defined areas at the Melville North Landfill. While the Melville North Landfill is currently owned by a private party (Melville Marine Industries), the U.S. Navy Northern Division, through the Naval Education and Training Center (NETC) at the Newport Naval Base, has agreed to undertake remediation of the property based on the Navy's former ownership/use of the landfill.

1.2 SITE DESCRIPTION

The Melville North Landfill is located on privately owned property at the northern end of the Newport Naval Base. The site is approximately eight acres in size and is situated between Defense Highway and Narragansett Bay. The Penn Central Railroad tracks run along the eastern side of the former landfill site. The railroad tracks are oriented in an approximate north-south direction. Access to the site is located off Defense Highway through a gate and along a paved entrance way. The paved entrance way leads approximately 180 feet down a small hill and across the railroad tracks to the site.

The site is relatively flat across the central to northern portions. In the southern portion of the site, a slight ridge runs along the eastern half of the site. Ground elevations across the main portion of the site vary between approximately 10 and 20 feet above mean sea level. Along the western edge of the site, the grade of the site is nearly level with the shoreline of Narragansett Bay. Ground water at the Melville North landfill flows to the west toward Narragansett Bay.

The site is vegetated with grass, weeds, and small trees. A strip of small trees is present along the edge of the bay in the west-central portion of the site. A small, more densely wooded area is present along the edge of the bay in the southern portion of the site. Just off the site, a small wooded area is also present along the central to southernmost edge of the site, between the site and Defense Highway.

1.3 WORK OBJECTIVES

The objective of the soil remediation project is to address removal of heavily impacted soils, which would potentially act as a source of continuing contaminant migration within a landfill setting. The following soil remediation goals will be used for the soil excavation of the two identified petroleum impacted soil areas at the Melville North Landfill:

- * Total Petroleum Hydrocarbons (TPH) - 1000 mg/kg or ppm
- * No physical evidence of petroleum-based contamination (e.g., soil discoloration and odor)
- * Toxicity Characteristic Leaching Procedure Compounds (TCLP) - Not to exceed Characteristically Hazardous limits.

2.0 REMOVAL OPERATIONS

To accomplish the objectives, OHM has divided the project into eight tasks. These eight tasks incorporate all of the activities of the Specifications and were established to divide the project into logical construction activities for planning, performance and control. The eight tasks are:

- TASK 1 - PROJECT PLANNING
- TASK 2 - MOBILIZATION AND SITE PREPARATION
- TASK 3 - EXCAVATION AND BACKFILL
- TASK 4 - SAMPLING AND ANALYSIS
- TASK 5 - TRANSPORTATION AND DISPOSAL
- TASK 6 - SITE RESTORATION
- TASK 7 - DEMOBILIZATION
- TASK 8 - POST-CONSTRUCTION SUBMITTALS

Subsequent sections of this Work Plan describe the approach and resources for each task.

2.1 TASK 1 - PROJECT PLANNING

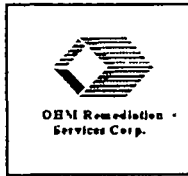
Before site mobilization, OHM will submit the following preconstruction submittals:

1. Submittal Register
2. Construction Schedule
3. Work Plan including
 - Clearing and Grubbing Plan
 - Dewatering Plan
4. Quality Control Plan
5. Site Health and Safety Plan
6. Accident Prevention Plan
7. Sampling and Analysis Plan
8. Spill and Discharge Control Plan
9. Off-site Disposal Plan

2.2 TASK 2 - MOBILIZATION AND SITE PREPARATION

OHM is planning to mobilize personnel and equipment on June 26, 1995 from the Hopkinton, Massachusetts and Windsor, New Jersey OHM division facilities.

OHM will establish the work zones detailed in the Site Health and Safety Plan (HASP). The work zones, consisting of the Support Zone (SZ), Contamination Reduction Zone (CRZ) and the Exclusion Zone (EZ), and the level of Personal Protective Equipment (PPE) to be used throughout the site, will be established in the HASP, using the existing analytical data collected from previous site investigations. The zones and PPE levels may be revised based upon additional site specific information obtained during removal activities. The work zones will be laid out by survey and marked with high-visibility tape barriers.



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An area will be selected for an office trailer and a personnel decontamination trailer. Erosion controls will be installed around the selected site. Clearing and grubbing of the site will be performed if necessary. Once completed the loam will be stripped and stockpiled adjacent to the site. A gravel pad will be constructed upon which the trailers will be installed. The trailers will be equipped with electricity, bottled drinking water, telephones and furniture as applicable. All trailers will be anchored in place as required by EMM385-1-1. An equipment and material staging area will also be selected and marked adjacent to the trailer staging area.

Erosion and sediment control barriers will be installed in accordance with the contract drawings, along the bank next to the work areas (Area's N & S).

All trees, stumps, logs, shrubs, and brush within the clearing limits as shown on the contract drawings will be cut flush with the existing grade. Once cut and felled, all vegetative material will be chipped, and disposed of off-site. During the chipping and clearing and grubbing operations, all roadways, and walks will be kept clear of debris at all times.

A concrete decontamination pad will be constructed to collect the water produced from the high-pressure sprayer used for decontamination of debris and equipment. A collection sump will be installed to transfer the rinse water to a holding tank by means of a one hp submersible pump.

An area, approximately 50 feet x 50 feet, will also be cleared, grubbed and graded to receive a 12,000 gallon and a 20,000 gallon holding tank. These tanks will be installed for temporary storage of water encountered during excavation dewatering and to collect rinsate from the decontamination facilities.

2.3 TASK 3 - EXCAVATION AND BACKFILL

The government and OHM will make an initial survey before the start of excavation. Once clearing and grubbing is completed excavation activities will commence at "AREA N", at the northern end of the site. This area occupies approximately 5700 square feet prior to slope cutback required to maintain OSHA standards. Topsoil will be stripped and stockpiled for possible respreading during site restoration. Excavation will proceed to the contract limits. Excavation will be accomplished using the open cut method. Based on available boring data, the side slopes will be excavated to a one and one half horizontal to one vertical in accordance with OSHA regulations. Once the contract limit is reached analytical data will be collected to assure that no unacceptable contamination remains. Excavation efforts will be relocated to "AREA S" (9,900 square feet) while OHM awaits analytical results. Once confirmation samples results are received backfilling will begin. Excavation and backfilling methodology is discussed below.

Given the proximity of the southern excavation "AREA S" to the top of the slope near the



REMOVAL OPERATIONS

Narragansett Bay, steel sheet piling or trench boxes may be employed to facilitate soil removal to the contract excavation limits in this area. This will prevent disturbance of the slope facing Narragansett Bay. OHM will prepare and submit to the Navy before the work at this area begins, all required submittals identified in Contract Specification 02220.

A Caterpillar 225 track excavator (or equivalent) will excavate and directly load the excavated material into 25 ton off-road dump trucks for transport to a temporary storage area located midway between the excavations. Material that contains an excessive amount of water (will not pass paint filter test) will be placed on a 30-mil polyethylene liner adjacent to the excavation. This excavated material will be allowed to drain, back into the excavation, prior to transport to the temporary storage area. Excavated materials will be field screened, segregated and stockpiled as described in Task 4 - Sampling and Analysis. Initially, all personnel in the exclusion zone will wear Level C personnel protective equipment. PPE levels may be revised based on additional site specific information obtained during excavation. OHM will use a calibrated photoionization detector (PID) and a calibrated flame ionization detector (FID) for air monitoring as well as personal sampling pumps for VOC's and metals. The PID and FID will also be used for field screening of soils and miscellaneous debris that may be encountered during excavation.

Due to the variable water table observed at the landfill and the tidal influence of Narragansett bay, groundwater may be encountered during excavation. If necessary, construction dewatering will be accomplished using a 3" trash pump. Water will be collected from a stone filled sump at the base of the excavation. Groundwater will be pumped first to the 12,000 gallon holding pool where solids will be allowed to settle and surface oil will be skimmed off. The water will then be transferred to the 20,000 gallon holding tank for temporary storage. The water will then be transferred to the Tank Farm 5 wastewater treatment system using a 7,000 gallon tanker truck. The Tank Farm 5 treatment system consists of five major process areas: pH adjustment, solids and metals removal, filtration, UV oxidation, and liquid phase granular activated carbon (GAC) adsorption. The storage tank will be located between "AREA S" and the stone construction entrance shown on Drawing C-2.

When the analytical results from perimeter sampling confirm that the cleanup objectives have been achieved, excavation will cease and backfill operations will begin. Backfill materials will consist of all surplus "clean" soil and debris as well as imported backfill. Debris used as backfill will be decontaminated prior to placement back into the excavation. Decontamination will be performed using water blasting, wiping, etc. and as otherwise may be required. Debris unable to be decontaminated will be disposed of off-site in accordance with federal, state and local regulations.

If the results of the sidewall samples indicate that contamination extends beyond the defined excavation limits, OHM will report this to Contracting Officer and, under their direction, will employ a backhoe or excavator to dig a perpendicular trench in the area of the contaminated sample such that the vertical and horizontal extent of the oily soil can be determined.

OHM proposes to use the following resources during excavation and backfilling operations.



REMOVAL OPERATIONS

PERSONNEL	EQUIPMENT	SPECIAL TOOLS AND EQUIPMENT
(1) Project Superintendent (1) T&D Coordinator Assistant (1) Health & Safety Officer (3) Equipment Operators (6) Recovery Technicians (1) Project Accountant (2) Truck Drivers (1) Chemist	(1) Trackhoe excavator (1) Backhoe (1) Loader (1) Dozer (1) Roller (2) Off-road dump trucks (1) 5000 gallon water truck	(1) Photoionization detector (1) LEL/Explosimeter (1) Personnel Sampling Pumps (2) Transport vehicles (1) Decontamination Trailer (1) Office Trailer (1) Storage Trailer

Backfill will be loaded into the 25 ton off-road dump trucks utilizing a Cat 950 Loader (or equivalent) and transported to the excavation area from a stockpile area. The stockpile area will be remote from the contaminated soil storage area to prevent cross contamination. The material will be spread in 12" lifts by a Cat D-6 dozer and compacted to 85% of the modified proctor density using a vibratory roller if necessary. Compaction tests will be performed every 2000 SF per lift in accordance with ASTM D 1556 (sand -cone method). A water wagon will be on-site during backfill operations to provide water, if necessary, to achieve the compaction requirements and control dust.

2.4 TASK 4 - SAMPLING AND ANALYSIS

Excavation and handling of soil and debris will be performed in a manner which will limit the mixing of soils and debris with different levels and types of contamination.

Contaminated soils will be segregated into four categories which will be stockpiled independently of each other:

Rhode Island Regulated Soil - Indicates visible petroleum contamination, petroleum odors or sustained non-methane PID or FID readings above 10 units.

Restricted Non-hazardous Soil - Indicates visible petroleum contamination, petroleum odors or sustained non-methane PID or FID readings above 100 units.

Hazardous Waste Soil - Indicates visible petroleum contamination, petroleum odors or sustained non-methane PID or FID readings above 1000 units.



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Unimpacted Soil - Indicates no visible contamination, petroleum odors, or sustained non-methane FID or PID readings over 10 units.

Field screening of soil will be accomplished by visual examination and use of a calibrated Flame Ionization Detector (FID) and Photoionization Detector (PID). One (1) representative sample per truck load of excavated soil will be analyzed utilizing the FID and PID and the soil will be stockpiled and sampled for analytical testing according to the specifications.

DESCRIPTION	FID/PID READING (UNITS)	SAMPLING FREQUENCY	TESTING PARAMETERS
Rhode Island Regulated Soil	> 10	1/150 CY 1/500 CY	TPH, Paint Filter Test TCLP for VOCs, SVOCs, PCBs, and Metals, Ignitability, Reactivity, pH, Method 8260 VOCs, Total Lead
Restricted Non- Hazardous soil	> 100	1/150 CY 1/500 CY	TPH, Paint Filter Test TCLP for VOCs, SVOCs, PCBs, and Metals, Ignitability, Reactivity, pH, Method 8260 VOCs, Total Lead
Hazardous Waste Soil	> 1000	1/40 CY	TPH, TCLP for VOCs, SVOCs, and Metals, Ignitability, Reactivity, Corrosivity, PCBs, Total Lead, Method 8260 VOCs, Paint Filter Test
Unimpacted Soil	< 10	1/400 CY	TPH by EPA Method 418.1, PCB's, TCLP VOCs, SVOCs and Metals
Contaminated Water	N/A	1/10,000 GAL	TPH by Method 418.1, VOCs by EPA Methods 8010 and 8020, pH

The temporary storage area will be covered with 30-mil polyethylene sheeting. The excavated soil will be placed on the impervious barrier and covered with 6 mil polyethylene sheeting. Sheeting will be held in place using sand bags and line as necessary. A straw bale berm will be placed around the



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outer limits of the containment area and covered with 6 mil polyethylene sheeting.

Within two days of completion of the excavation, soil samples will be collected around the excavated perimeter, at an elevation one foot above the preconstruction groundwater table. A discrete soil sample will be collected for every 50 linear feet of excavation perimeter and analyzed for TPH. One quarter of the samples will be analyzed for the full TCLP parameters. Two samples will be collected from the bottom of each excavation area and will be analyzed for TPH. One of these samples will be analyzed for the full TCLP parameters.

2.5 TASK 5 - TRANSPORTATION AND DISPOSAL

OHM will be responsible for waste profiling and preparing manifests and shipping documentation for off-site transportation and disposal in accordance with the Transportation and Disposal Plan included herein. Proper shipping names, packaging, marking, labeling, and placarding will be completed in compliance with 49 CFR parts 262 and 263. Prior to leaving the site, all waste shipments will be carefully screened by OHM to ensure that all containers have been properly prepared for shipment. OHM will not ship any waste without first receiving permission from the contracting officer.

The disposal of all waste from the site will be at approved facilities. The selection of the type of facility, i.e., landfills, incinerators, or other facilities, is limited by the physical and chemical properties associated with the material to be disposed of and the permit restrictions of a specific facility.

2.6 TASK 6 - SITE RESTORATION

Site restoration includes furnishing (if necessary) and placing of topsoil, restoration of the gravel road removed during the excavation of Area N, and hydroseeding of all areas disturbed by construction activities.

Upon completion of all backfill and disposal activities, the contaminated soil storage area, decontamination pad, and the 100K holding tank area will be decontaminated as necessary and removed from the site. The construction entrance, support zone(s), silt fence, haybales and miscellaneous construction debris will be disassembled, removed and disposed of as appropriate. Areas disturbed by these activities will then be regraded, reloamed as necessary, and restored.

The gravel roadway, removed in the excavation of Area N, will be re-installed. The roadway will be graded to accommodate 8" of gravel placed on woven geotextile as detailed on drawing C-4.

Area N and S will receive 4" of topsoil. Topsoil stripped and stockpiled during site preparation will be randomly tested for contaminants prior to reuse as topsoil. This material will be fully utilized used



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prior to purchasing off-site material.

All areas disturbed by construction will be receiving the following:

Seed:	5 lbs/1000 SF
Fertilizer:	25 lbs/1000 SF
Limestone:	70 lbs/1000 SF

Mulch and water will be provided to establish an acceptable stand of grass.

2.7 TASK 7 - DEMOBILIZATION

Demobilization will be performed following site restoration. Site support facilities will be removed, and temporary utilities will be terminated and service lines removed. If restoration of the this support zone is required it will be performed at this time.

2.8 TASK 8 - POST CONSTRUCTION SUBMITTALS

OHM will prepare and submit the following documents upon completion of the project:

- * As-Built Drawings
- * Final Report

3.0 ORGANIZATION OF PROJECT

3.1 ANTICIPATED TASKS

OHM has reviewed the proposed action SOW and has determined that the following activities will be performed in order to complete the project.

- Perform the site preparation activities.
- Perform clearing and grubbing.
- Perform minor construction activities.
- Abandon wells.
- Install dewatering system.
- Perform the required excavation.
- Perform the required backfilling and compaction.
- Install loam as required.
- Perform site cleanup and vegetate all disturbed areas.
- Demobilize resources.
- Prepare final report and submittals.

3.2 MANPOWER REQUIREMENTS

This work requires that various crews be on site, often at the same time, to perform all of the removal action activities. OHM will utilize separate crews for some of the proposed activities. Table 2-1 provides the listing of activities, the make up of the proposed crew for that activity and equipment of that crew. Crew size and equipment may be subject to change, depending upon field conditions experienced while executing the work.

3.3 MANAGERIAL APPROACH TO CONSTRUCTION

OHM's approach to project management is to place the management at a level close to the Navy technical representative (NTR). OHM's project manager will work directly with NTR to achieve mutual satisfaction with the project. The OHM project manager will have overall project responsibility to NTR from a schedule, cost, and resources standpoint.



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OHM assigns a project supervisor to be responsible for accomplishing the work in the field. The project supervisor reports directly to the project manager. The project supervisor is responsible for the day-to-day activities in the field.

The project manager and site supervisor have jointly developed the project schedules and budgets and work to achieve these goals over the duration of the project. The schedule and budgets also include the resources required to perform the work. The required resources will be reviewed with OHM's regional resource manager to schedule the necessary resources for the project in a timely way to assure availability. These activities are part of the initial planning activities and act as a baseline for measuring the progress of the project.

OHM will also provide a project accountant (PA), on site, to assist the site supervisor in compiling the daily site costs and test results, and assist in procurement activities.

The proposed project organization is presented in Figure 1-2. The duties and responsibilities of the project team members are defined in Section 3.4.

3.4 PERSONNEL - DUTIES AND RESPONSIBILITIES

3.4.1 OHM Responsibilities

The responsibilities of OHM are:

- Perform the removal activities defined in the Work Plan and required under this delivery order.
- Prepare and submit to the Navy monthly status reports containing such information regarding percentage of completion, unresolved delays (encountered or anticipated) that may affect the schedule and a description of efforts made to mitigate those delays or anticipated delays, revise construction schedule, listing of activities scheduled for the next month, and other information relating to the progress of construction as is customary in the industry.
- Initiate, maintain, and supervise all safety precautions and programs in connection with the work.
- If conflict, error, or discrepancy is found in contract documents, report to the Navy representative in writing before proceeding to obtain a written interpretation or clarification from the Navy.



ORGANIZATION OF PROJECT

- Notify the Navy representative in writing of any subsurface or latent physical conditions encountered which differ materially from those specified or indicated.
- Implement CQCP and establish chain of command.
- Conduct surveys for establishing pay limits and determining quantities for progress pay estimates; furnish Navy with one copy of all field notes of each survey.
- Provide a site supervisor, who will be OHM's representative at the site.
- If materials or equipment, or specific means, methods, techniques, sequence, or procedure of construction is indicated in or required by the contract documents, furnish or utilize a substitute acceptable to the NTR if needed.
- Procure subcontractor services; submit these services to the Navy for acceptance.
- Maintain at the site two record copies of all as-built drawings, one copy of specifications, addenda, written amendments, change orders, work directive changes, field test records, field orders, and written interpretations and clarifications. Upon completion of the work, deliver these records to the Navy.

3.4.2 Responsibilities of OHM's Project Team

The removal action at the Melville Landfill site will be led by a project-dedicated team, as shown on Figure 2, who is responsible for the management and completion of the overall project and the primary components of design and remediation. The organization chart (Figure 1-2) defines the primary "chain of command."

The project manager will have the overall responsibility for project efforts including technical, schedule, and budget aspects. The project manager will be responsible for the day-to-day management and integration of all elements of the project and will be accountable for each activity. Supporting the project manager will be the project engineer for technical and site activities functions. Supporting the project manager in the field will be the project engineer, site supervisor, site safety officer (SSO), PA, and other support personnel as needed.



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Separate from the project management chain of command is the QC chain of command under the direction of the QC engineer. The OHM QC engineer will work independently of the OHM project team.

Responsibilities and authority of the project manager and supporting field personnel fundamental to the project are discussed in the following sections. Responsibilities and authority of the QC engineer are discussed in Section 2.4.9.

3.4.3 Project Manager

The project manager is the person in charge of the overall project and has full authority for coordination and direction of the project. The project manager will communicate directly with the NTR. Specific responsibilities of the project manager include:

- Interpret and plan overall work effort
- Approve work products, plans, and deliverables
- Overall responsibility for preparation and planning of documents for the work
- Respond to resource requirements by defining resource needs and securing the commitments for staff and equipment
- Monitor subcontractor performance, schedules, budgets, and invoices
- Develop, review, and meet work schedule and budget objectives
- Ensure technical adequacy of field, laboratory, data management, and construction activities
- Prepare for and attend meetings with the Navy, as required
- Manage and coordinate group interfaces
- Document the need for contract modifications, if needed.

To carry out these functions, the project manager will have the authority to:

- Make work assignments for staff and subcontractors



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- Allocate additional personnel as needed
- Establish work budgets and schedules with milestones
- Approve subcontractor work and invoices
- Communicate with the site supervisor about day-to-day activities and alert the program manager and/or the project engineer to potential problems
- Maintain OHM quality standards.

3.4.4 Project Engineer

The project engineer is responsible for performance of the technical aspects of the remediation and construction activities. Other responsibilities include:

- Day-to-day coordination of technical activities
- Provide technical guidance
- Ensure technical adequacy of field, laboratory, data management, and construction activities
- Interfacing with the project manager for engineering activities
- Acting as a focal point for coordination of engineering project deliverables
- Approving the appropriate project-specific procedures and the as-built drawings.

3.4.5 Site Supervisor

The site supervisor is the OHM contact at the site and is responsible for performing the remediation activities in accordance with the work plan and other project plans and specifications. The site supervisor's responsibilities include, but are not limited to:

- Coordinating the SSO for implementing the day-to-day aspects of the HASP



ORGANIZATION OF PROJECT

- Coordinating engineering activities at the site as directed by the project engineer or project manager
- Managing the day-to-day execution of the project at the site including administrative and procurement activities
- Monitor work progress and schedule, and advise project manager of variances
- Implementing state and federal regulations pertinent to the work
- Assisting in preparation of work progress schedules, project reports, "as-built" drawings, and required compliance submittals
- Compiling the daily logs into a weekly report which will be forwarded to the project manager
- Attending work progress meeting
- Reporting to the project manager changes desired in the contract documents so that required review and approval can be accomplished prior to when the change is made, and reporting for review and approval changes necessitated by unanticipated site conditions
- Procuring, with approval of the project manager, subcontractor services
- Ensuring that removal rework is subjected to the same quality requirements as the original work.

3.4.6 Site Safety Officer

The SSO is responsible for implementing the HASP which satisfies federal, state, and local regulations and is consistent with site conditions. The SSO may take actions independent of the project group to stop the project, if required, for compliance with the HASP.

The site supervisor is responsible for the day-to-day implementation of the HASP during site activities. The SSO will oversee this day-to-day implementation, including the following responsibilities:

- Implementing the day-to-day aspects of the HASP



ORGANIZATION OF PROJECT

- Directing the entrance and exit medical physical requirements, if required
- Approval of personnel protective equipment and safety procedures specified in the HASP
- Overseeing the maintenance and use of field monitoring equipment necessary to define on-site hazards associated with remediation
- Designating appropriate personnel protection level; determining protection level upgrades and downgrades as site conditions permit
- Providing necessary guidance to the project staff so they can safely perform their functions in accordance with federal and state regulations.

3.4.7 Project Accountant

The responsibilities of the PA are:

- Assist the project manager in preparation of schedules, budgets, and invoices
- Establish tracking systems to track costs and budget variances
- Provide weekly progress reports on budget and schedule status to the project manager
- Prepare daily report deliverables
- Audit weekly postings of charges to work budgets
- Assist the project manager in communicating work procedures and goals to OHM's staff
- Assist site supervisor in procurement activities.

3.4.8 Sample Technician

The responsibilities of the sample technician are:



ORGANIZATION OF PROJECT

- Performing all sampling activities in accordance with the approved protocols
- Assist the geotechnician with geotechnical testing, as needed.

3.4.9 Quality Control Representative

The quality control (QC) representative is independent of the site project chain of command and reports to the Program QC Manager and works with the NTR.

The QC representative is responsible for coordinating inspection and surveillance activities. The QC representative will monitor the full site activities on a full-time basis. The results of inspections and surveillances will be documented in a report describing the events reviewed that day. The QC representative will also be responsible for:

- Reviewing results of on-site verification testing and inspection reports.
- Implementing appropriate provisions of this plan.
- Serving as the collection point for remediation-related nonconformance.
- Perform, or cause to be performed, daily inspections and tests of the scope and character necessary to achieve the quality of construction outlined in the plans and specifications for work under the contract performed on or off site.
- Maintain the latest applicable drawings and specifications with amendments and/or approved modifications at the job site and assure that they are used for shop drawings, fabrication, construction, inspections, and testing.
- Maintain marked-up drawings at the site depicting as-built conditions. The drawings will be available for review by the NTR at all times.
- Maintain a contractor-generated submittal register, ENG Form 4288, for the duration of the contract. A review of the register will be performed at least every 14 days in conjunction with the scheduled dates on the register and in relation to the actual work status. Appropriate actions will be undertaken should slippages or other changes so necessitate. Refer to Appendix A for the Submittal Register.



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- Review shop drawings and/or other submittals for compliance with the contract requirements prior to their transmission to the NTR.
- Establish and maintain a Rework Item List of work that does not conform to specifications. Track and monitor the items on the list to assure the rework inspection and testing activities and frequencies are in accordance with the contract requirements.
- Attend and assist the NTR at the pre-final inspection and the final acceptance inspection.

3.4.10 Transportation and Disposal Coordinator

OHM will assign a transportation and disposal coordinator to the project team to manage the transportation and disposal of the various wastes. The transportation and disposal coordinator will be responsible for preparing waste profiles and manifests, and for obtaining cost-effective transportation disposal options and disposal facility approval. The coordinator will work closely with the NTR.

3.4.11 Laboratory Responsibilities

OHM will use a third-party, independent geotechnical and chemical/analytical testing laboratories to perform various tests on soil, gravel, and water as project's progress dictates. The responsibilities of this laboratory are to provide accurate and timely testing and reporting which aid in the progress of work of this project, according to specified guidelines.

3.4.11.1 Geotechnical Laboratory Manager

The ultimate responsibility for implementing quality assurance/quality control (QA/QC) within the laboratory resides with the geotechnical laboratory manager.

This responsibility includes, but is not limited to, the following:

- Act as the principal contact between OHM and the laboratory
- Support the geotechnical laboratory coordinator to ensure that all data are collected under in-control conditions
- Submit the weekly QC report through the OHM Program QC Manager to the NTR



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- Upon notification by the OHM project manager of samples to be received, inform the laboratory coordinator of sample arrivals so the required analyses can be scheduled into the laboratory workload in such a manner as to meet the QC requirements contained in the CQCP
- Submit to the OHM project manager all pertinent information produced by the laboratory necessary to prepare the draft and final Reports for the project
- Track all samples and analyses that are submitted to the laboratory to verify that all work is being accomplished in a timely manner
- Support the laboratory coordinator, who coordinates sample transfer and analysis of all incoming samples from the field to the laboratory; the laboratory coordinator reports to the laboratory manager
- Support the laboratory coordinator to ensure the completion of the subcontractor work for the project is accomplished in a timely manner
- Verify that sampling procedures are adequate for the sample types received
- Oversee the quality of purchased laboratory materials, reagents, and chemicals to verify that these supplies do not jeopardize the quality of analytical results
- Ensure implementation of corrective action for any QA/QC deficiencies.

3.4.11.2 Chemical Analysis Laboratory Coordinator

The laboratory coordinator has the responsibility within the laboratory to establish, oversee, and audit specific procedures for documenting and controlling analytical data quality. Many of the procedures may be implemented by other individuals, but the laboratory coordinator must monitor that procedures are being implemented properly and the results interpreted correctly. The laboratory coordinator's responsibilities include, but are not limited to, the following:

- Monitor the QA and QC activities of the laboratory to verify conformance with authorized policies, procedures, and sound practices, and recommend improvements as necessary.



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- Inform the OHM project manager, the laboratory manager, and the laboratory management of any nonconformance to their QA/QC program.
- Request analytical reference materials from the Navy, as needed, through the OHM Program QC Manager.
- Verify that all records, logs, standard procedures, project plans, and analytical results are maintained in a retrievable fashion.
- Verify that copies of standard procedures and project plans are distributed to all laboratory personnel involved in the project.
- Establish with the analysts, laboratory management, and the laboratory manager, the correct analytical lot size, the correct QC samples to be included in each lot, and the correct procedures for evaluating acceptable analytical performance within established guidelines.
- Verify that analytical sampling is conducted in a manner consistent with the CQCP.
- Verify that logging of received samples includes establishing appropriate lot size for each analysis and allocating sample numbers for the correct control samples in each lot.
- Review all laboratory data before those data are transmitted to permanent storage, or reported to other project participants.
- Verify that analysts are preparing QC samples, maintaining control charts, and implementing and documenting corrective action when necessary.
- Review control charts produced by the data management group on a daily basis, discuss control chart results with the laboratory manager, and submit charts to the NTR on a weekly basis through the OHM Program QC Manager.
- Maintain an awareness of the entire laboratory operation to detect conditions which may directly or indirectly jeopardize controls of the various analytical systems (i.e., improper calibration of equipment, gross contamination through improper storage of samples).



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- Audit sampling documentation and procedures to ensure that samples are labeled, preserved, stored, and transported according to prescribed methods.

4.0 FINAL REPORT

A final engineering report will be written and finalized within 30 days of project completion and furnished to the Navy and RIDEM, Division of Site Remediation. The 30 days will commence on the first day after the final inspection has been completed. The complete final engineering report will contain the following items:

- Executive Summary of Action
- Summary of Record Documents
- Project Description
- Field Investigation Summary
- Field Changes and Project Modifications
- Discussion of Remediation Activities Performed
- Summary of Procedures Employed During the Removal Action
- Materials Testing Data (CQ)
- As-Built Drawings
- Final Health and Safety Report
- CQ Summary Report
- Descriptions of Actions Taken and Any Potential Future Actions
- Conclusions Regarding Conformance of Treatment Process with Performance Standards

5.0 FIELD PROCEDURES

5.1 TRIP REPORT

Prior to beginning the site work, OHM's project manager and site supervisor will perform a reconnaissance survey of the project site with the Contracting Officer Technical Representative (COTR) and the NTR. The survey will define areas of concern by the NTR and OHM's proposed method to alleviate the concerns. A trip report will be prepared and submitted to the Navy.

5.2 DAILY SAFETY MEETING

OHM supervisory personnel will hold daily tailgate safety meetings to advise the workers of proper methods of performing the work planned for the day. The topic of discussion will be listed on a sign-in sheet and the PA will ensure everyone present signs the sheet which will be kept as a record of the meeting.

5.3 STATUS REPORTS

The OHM project manager, with assistance from the site supervisor and the PA, will prepare monthly status reports for the current condition of the project. The status reports will include a Technical Progress Report, Cost Performance Report, Modification Log, Project Schedule, Government Materials Tracking Report, Variance Analysis Report, and a Waste Materials Report.

5.4 NONCOMPLIANCE CHECKLIST

OHM's CQC representative will prepare and submit to the NTR on a monthly basis a list of noncomplying work (Rework Item List).

5.5 DAILY REPORT/CQC REPORT

OHM's CQC representative will prepare and submit to the NTR on a daily basis (every day that work is performed) the Daily Report to Inspector/CQC Report (DRI/CQC Report). The DRI/CQC Report will be submitted by 10:00 a.m. the following day. A copy of the daily report will be sent to the OHM project manager daily and a copy will be maintained on site.

5.6 TEST RESULTS SUMMARY REPORT



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OHM's CQC representative will prepare a summary report of all field tests containing both "required" and "actual" results plus "passed" or "failed" for conforming, nonconforming, and repeated test results. The report will be submitted to the NTR and OHM project manager at the end of each month.

5.7 SUBMITTAL STATUS LOG

The CQC representative will prepare and continually update a Submittal Status Log to document quality control for materials, inspection, and testing. The Submittal Status Log will be maintained on site and available for government review.

5.8 PROJECT SCHEDULE

A detailed schedule for the completion of the removal activities is currently being prepared and will be submitted to the Navy as a separate document.

6.0 PERMIT REQUIREMENTS

OHM will obtain the required permits to perform the removal activities. A summary of the permitting requirements is presented below.

- Applicable Insurance - All insurance included in Specification Section 1010 Paragraph 1.9 will be or has been obtained and proof of insurance will be forwarded to the COTR.
- Station Regulations - All OHM direct personnel and subcontract personnel will be advised of the Station Regulations by a member of the Project Team on site. A written log of people who have received this information will be kept on-site for the NTR to review as necessary.
- Station Permits - OHM will apply for all Station Permits required in Contract Specification 01011 Paragraph 3.4.2. These permits will be issued in full force prior to the work covered by the permit commencing.
- Solid Waste Disposal Permit - A copy of the Solid Waste Disposal Permit required by Contract Specification 01560 paragraph 1.4.1.1 will be submitted to the NTR prior to any solid waste being moved off-site if applicable.
- Hazardous Waste Disposal Permit - A copy of the Hazardous Waste Disposal Permit will be submitted to the NTR prior to any waste being disposed of off-site as required in Contract Specification 01560 paragraph 1.4.1.2.
- Prior to commencement of the removal work OHM will arrange a meeting with the NTR and COTR at the site to survey the site. A report of the survey findings along with preremoval photographs will be submitted to the NTR.
- Prior to commencement of removal work the Navy will obtain a Rhode Island Coastal Resources Management Council permit.

7.0 PROCEDURES FOR DECONTAMINATION

This section describes an overview of the procedures necessary to ensure that both personnel and equipment are free from contamination when leaving the work site, either at the end of each day, during scheduled breaks, and/or upon completion of the project. Details regarding decontamination procedures for personnel, equipment, and vehicles may be found in the SHERP.

7.1 PERSONNEL DECONTAMINATION

The following site activities present the greatest opportunity for personnel contamination:

- Clearing and grubbing
- Excavation of contaminated soils
- Sampling of contaminated soils

OHM will apply engineering and/or work practice controls as a means of protecting personnel in performance of site-specific tasks. Engineering controls will be implemented to reduce and maintain employee exposure to at or below safe levels for those tasks that which include possible exposure to known or suspected hazards. When engineering controls are impractical or insufficient to protect employees during site operations, OHM will use personal protection equipment (PPE).

Any personnel exposed to possible contamination during daily activities will have to follow proper decontamination procedures. Decontamination procedures will ensure that material which workers may have contacted in the EZ does not result in personal exposure and is not spread to clean areas of the site. The EZs will be limited to the work areas that are considered or suspected to be contaminated. The sequence listed below describes the general decontamination procedures. The specific stages will vary depending on the site, the task, the protection level, etc.

- Go to the end of EZ
- Wash outer boots and gloves in detergent solution
- Rinse outer boots and gloves in water
- Remove outer boots and let dry
- Remove outer gloves and let dry
- Cross into contamination reduction zone (CRZ)
- Wash splash suit
- Rinse splash suit



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- Remove splash suit and let dry
- Remove and wash respirator
- Rinse respirator and hang to dry
- Remove polycoat Tyvek and discard
- Remove booties and discard
- Remove sample gloves and discard.

7.1.1 Suspected Contamination

Any employee suspected of sustaining skin contact with chemical materials will first use the emergency shower. Following a thorough drenching, the worker will proceed to the decontamination facility. There, the worker will remove clothing, shower, don clean clothing, and immediately be taken to the first-aid station.

7.1.2 Personal Hygiene

Before any eating, smoking, or drinking, personnel will wash hands, arms, neck, and face.

7.2 EQUIPMENT DECONTAMINATION

All contaminated equipment will be decontaminated before leaving the site. Decontamination procedures will vary depending on the contaminant involved, but may include sweeping, wiping, scraping, hosing, or steaming the exterior of the equipment. Personnel performing this task will wear the proper PPE as prescribed by the SHSO. Two decontamination stations are planned for this project. A personnel decontamination station will be established at the end of the EZ to allow field personnel decontamination before entering into the CRZ. An equipment decontamination pad will be constructed in the CRZ to decontaminate the equipment/trucks before they leave the site.

7.3 DISPOSAL

All liquids and disposable clothing will be treated as contaminated waste and disposed of properly.